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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,942	05/27/2005	Jan Rytter	13261.0029USWO	8305
23552 7590 02/07/2007 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER KEE, FANNIE C	
			ART UNIT 3679	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/536,942		RYTTER, JAN	
	<b>Examiner</b>		<b>Art Unit</b>	
	Fannie C. Kee		3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-11,13 and 16-36 is/are rejected.
- 7) ☐ Claim(s) 8, 12 and 14-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20050527; 20050826</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.
2. The information disclosure statement filed 5/27/05 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.
3. The information disclosure statement filed 8/26/05 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

***Drawings***

4. The drawings are objected to because in Figure 4.b, reference number “413” should be “412”.

In Figure 5.a, the lead lines for reference elements “512” and “542” should not overlap.

In Figure 7.b, reference element “76” should be moved so that it and its lead line can be more readily visible.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “735”, in Figures 7.a and 7.c, has been used to designate both an anchoring section (page 27, line 1) and a locking cavity (page 26, line 24).

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Figure 2 – reference element “251”
- Figure 6 – reference element “4”.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: winding angles  $\alpha_{upper}$ ,  $\alpha_{lower}$  (page 18, line 2).

8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

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sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

9. The abstract of the disclosure is objected to because it refers to the purported merits of the invention, the use of legal phraseology and minor grammatical issues:

- Line 1 – “[t]he invention”.
- Line 2 – “said armour” and “said underlying pipe”.
- Lines 3-4 – “[t]he object of the present invention”.
- Line 5 – “[t]he problem is solved”.
- Line 6 – replace the word “an” with --a--.
- Line 8 - replace the word “ahs” with --has--.
- Line 10 – “according to the invention”.

- Line 13 – “[t]he invention”.

Correction is required. See MPEP § 608.01(b).

10. The disclosure is objected to because of the following informalities:

- a. Page 2, lines 34-35 – delete “described in the accompanying claims”.
- b. Page 7, line 5 – is the word “sign” meant to be --sine--?
- c. Page 7, line 22 – replace the word “to” with the word --two--.
- d. Page 7, line 35 – to what does “every normal to this surface” refer?
- e. Page 10, line 12 – add an --s-- to the end of the word “verge”.
- f. Page 10, line 12 – “conoidous” does not appear to be an actual word. Does Applicant mean conoid or conoidal?
- g. Page 13, line 19 - add an --s-- to the end of the word “comprise”.
- h. Page 13, line 23 - replace the word “see” with the word --sea-- and add the word -and-- before the word “more”.
- i. Page 14, line 11 - replace the word “being” with the word --are--.
- j. Page 15, line 13 - replace the word “being” with the word --are--.
- k. Page 16, line 6 - add an --s-- to the end of the word “comprise”.
- l. Page 16, line 12 – add an --ing-- to the end of the word “extend” and add an --s-- to the end of the word “include”.
- m. Page 16, line 14 – add an --ing-- to the end of the word “extend”.
- n. Page 18, line 3 - add an --s-- to the end of the word “layer”.
- o. Page 20, line 5 – add an --s-- to the end of the word “verge”.

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- p. Page 23, line 2 - replace the word "of" with the word --and--.
- q. Page 23, line 28 – add a period after the word "material".
- r. Page 27, line 5 – add an --ing-- to the end of the word "secure".

Correction is required.

### *Claim Objections*

- 11. Claim 21 is objected to because of the following informalities: replace the word "comprise" with the word --comprising--.
- 12. Claim 31 is objected to because of the following informalities: replace the word "being" with the word --are--.
- 13. Claim 35 is objected to because of the following informalities: add an --s-- to the end of the word "comprise" in line 3.
- 14. Claim 36 is objected to because of the following informalities: add an --s-- to the end of the word "include" in lines 4 and 6 and add an --ing-- to the end of the word "extend" in line 6.

Correction is required.

***Claim Rejections - 35 USC § 112***

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 9-10, 19-23, 26, 29, 32, and 36 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the supporting surface" in line 1. There is insufficient antecedent basis for this limitation in the claim.

A broad range or limitation followed by linking terms (e.g., preferably, maybe, for instance, especially) and a narrow range or limitation within the broad range of limitation (in the same claim) is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).



In the present instance, claim 19 recites the broad recitation “un-bonded flexible pipe”, and the claim also recites “preferably comprising a tube formed liquid tight inner liner and one or more armour layers” which is the narrower statement of the range/limitation. Claim 19 also recites “preferably two or more armour layers” which is the narrowest statement of the range/limitation.

Regarding claim 20, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 20 also uses the phrase “preferably” which renders the claim indefinite as it is unclear what the metes and bounds are of the patent protection desired.

Regarding claim 21, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 21 also uses the phrases “preferably” and “optionally” which render the claim indefinite as it is unclear what the metes and bounds are of the patent protection desired.

Regarding claim 23, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

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Claim 23 also uses the phrase “optionally” which renders the claim indefinite as it is unclear what the metes and bounds are of the patent protection desired.

Claim 26 uses the phrase “optionally” which renders the claim indefinite as it is unclear what the metes and bounds are of the patent protection desired:

Regarding claim 32, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 32 is also rendered unclear and indefinite as it recites “such as at least 5% smaller” followed by “such as at least 30% smaller”. How is it possible for an area to be 5% smaller and then be 30% smaller?

Claim 36 uses the phrase “preferably” which renders the claim indefinite as it is unclear what the metes and bounds are of the patent protection desired.

***Claim Rejections - 35 USC § 102***

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-7, 11, 13, 16, 18-19, 22, 24-31, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Glejbol WIPO International Publication No. WO 01/07818 A1.

With regard to claim 1 and as seen in Figures 1 and 2 below, Glejbol discloses a pipe structure comprising a flexible pipe 1 connected to an end fitting 10, the flexible pipe comprising an armour layer 5 and an underlying pipe layer 3 to said armour layer, said underlying pipe layer having an outer surface around which armouring wires of an armouring layer are wound, the flexible pipe having a longitudinal axis wherein said end fitting comprises

one or more anchoring elements (Figure 2 below) adapted for anchoring at least one of said armouring wires, and

a support unit 16 arranged coaxially around said underlying pipe layer

at least one of said armouring wires 5 comprising

a conforming-wire-pipe-section (Figure 1) forming a helical path and conforming to the outer surface of said underlying pipe layer of said flexible pipe at least over a part of its length, and

a wire-end-fitting-section (Figure 2 below),

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said two wire sections (Figure 2 below) extending in opposite directions from a wire-pipe-exit-point (Figure 2 below) where said armouring wire separates tangentially away from said underlying pipe layer, and

said wire follows an essentially straight line of a length  $L_{\text{free}}$  (Figure 2 below) between said wire-pipe-exit-point and a straight-line-end-point (Figure 2 below) on said support unit, said essentially straight line part of the wire being defined as the straight-line-section (Figure 2 below).

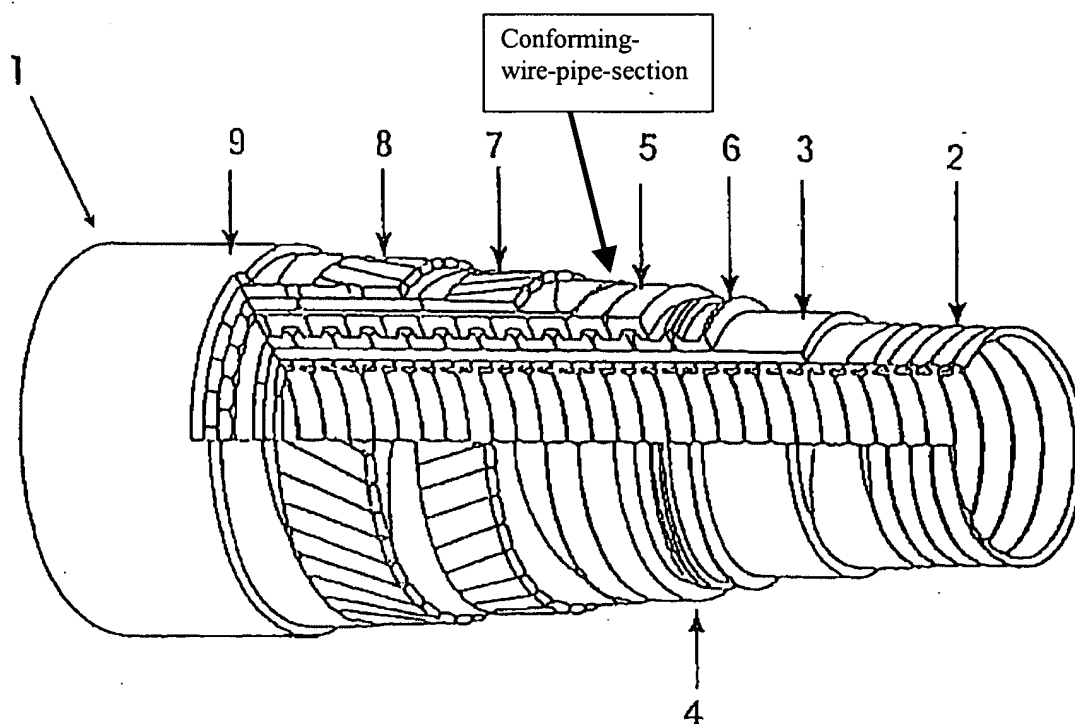
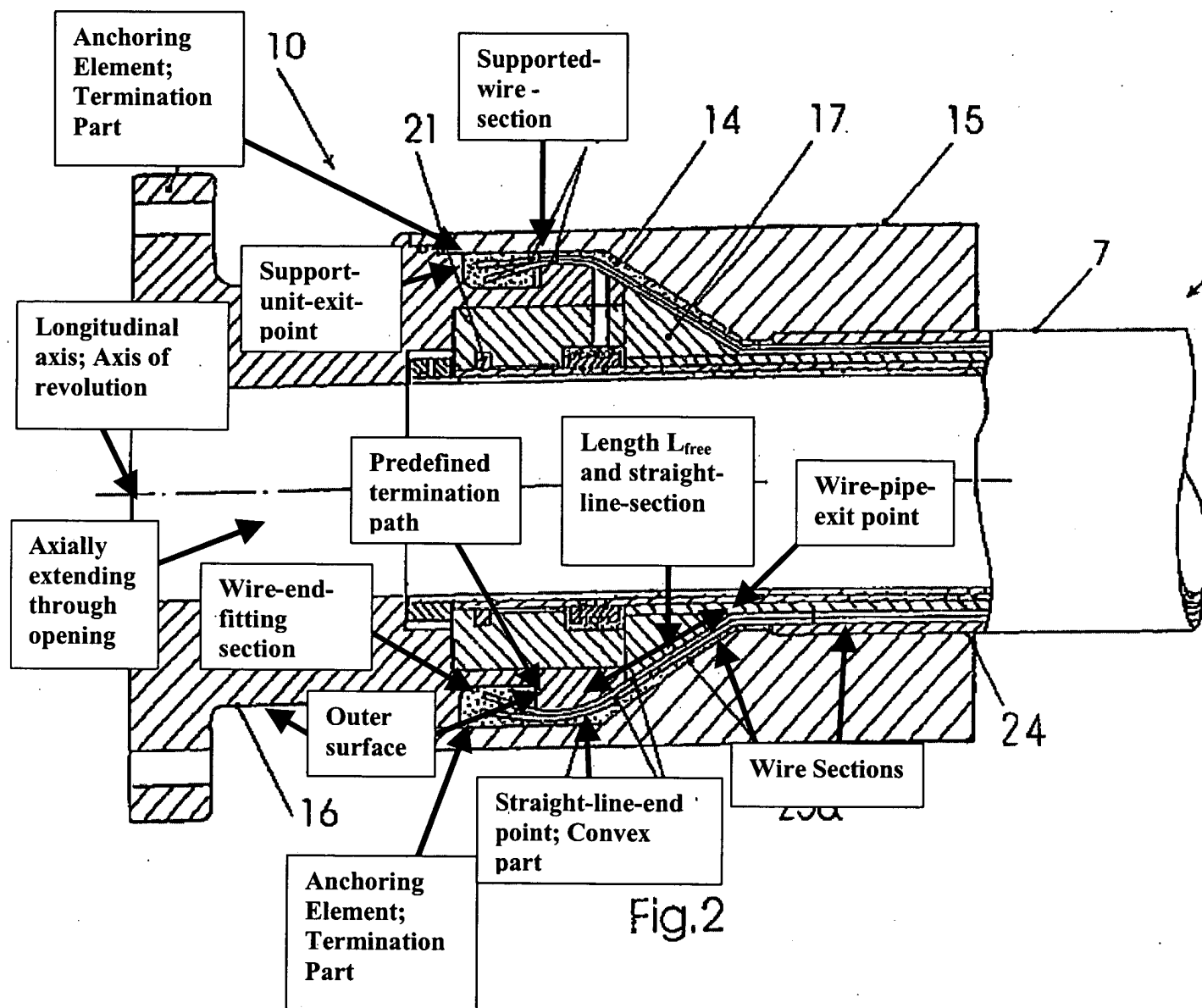


Fig 1



With regard to claim 2, Glejbol discloses said wire-end-fitting-section being arranged to follow a predefined termination path between said wire-pipe-exit-point and one of said anchoring elements when said pipe structure is in an unloaded condition (Figure 2 above).

With regard to claim 3, Glejbol discloses said straight-line-section is essentially unsupported between said wire-pipe-exit-point and said straight-line-end-point on said support unit (Figure 2 above).

With regard to claim 4, Glejbol discloses said straight-line-section extending away from said longitudinal axis when viewed from said wire-pipe-exit-point (Figure 2 above).

With regard to claim 5, Glejbol discloses said straight-line-section of said armouring wire having a tangential point of contact with said support unit in said straight-line-end-point.

With regard to claim 6, Glejbol discloses said underlying pipe layer of said flexible pipe comprising an armouring reinforcement 7,8 on a section of the pipe structure including said wire-pipe-exit-point and extending in a direction of the end fitting as defined by a direction from the flexible pipe towards the end fitting (Figure 1 above).

With regard to claim 7, Glejbol discloses said predefined termination path further comprising a supported-wire-section running on the outer surface of said support unit from said straight-line-end-point to a support-unit-exit-point where the armouring wire leaves the surface of said support unit for being locked in one of said anchoring elements, said supported-wire-section essentially constituting a geodetic curve between said straight-line-end-point and said support-unit-exit-point on said outer surface of said support unit (Figure 2 above).

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With regard to claim 11, Glejbol discloses said support unit having an outer surface that describes a surface of revolution with an axis of revolution that coincides with the longitudinal axis of the flexible pipe (Figure 2 above).

With regard to claim 13, Glejbol discloses said support unit having a convex part with an outer surface with an outward curvature and said straight-line-end-point is located on said convex part of the support unit (Figure 2 above).

With regard to claim 16, Glejbol discloses said anchoring elements for locking said armouring wires to said end-fitting being distributed on one or more terminating parts.

With regard to claim 18, Glejbol discloses said straight-line-section of an armouring wire being surrounded by a material 14 which does not substantially alter the deformation behaviour of the flexible pipe and the wire (Figure 2 above).

With regard to claim 19, Glejbol discloses the flexible pipe being an un-bonded flexible pipe, preferably comprising a tube formed liquid tight inner liner and one or more armour layers, preferably two or more armour layers (page 8, lines 30-34 – page 9, lines 1-10).

With regard to claim 22, Glejbol discloses said armouring wire or wires being in the form of a layered wire comprising two or more layers of materials 5,6 which may be identical or different from each other (Figure 1 above).

With regard to claim 24, Glejbol discloses said armouring wire or wires being in the form of a layered wire comprising two or more layers of materials 5,6 which layers being held together by a wrapping material and/or by adhesive forces 7,8 (Figure 1 above).

With regard to claim 25, Glejbol discloses each armour layer comprising one or two or a multitude of armouring wires 5,6.

With regard to claim 26, Glejbol discloses said armouring wire(s) 5 being flat, said wire or wires having a square formed cross section, optionally a square formed shape with rounded corners (Figure 1 above).

With regard to claim 27, Glejbol discloses each of the layers of the flexible pipe being fixed to said end- fitting (Figure 2 above).

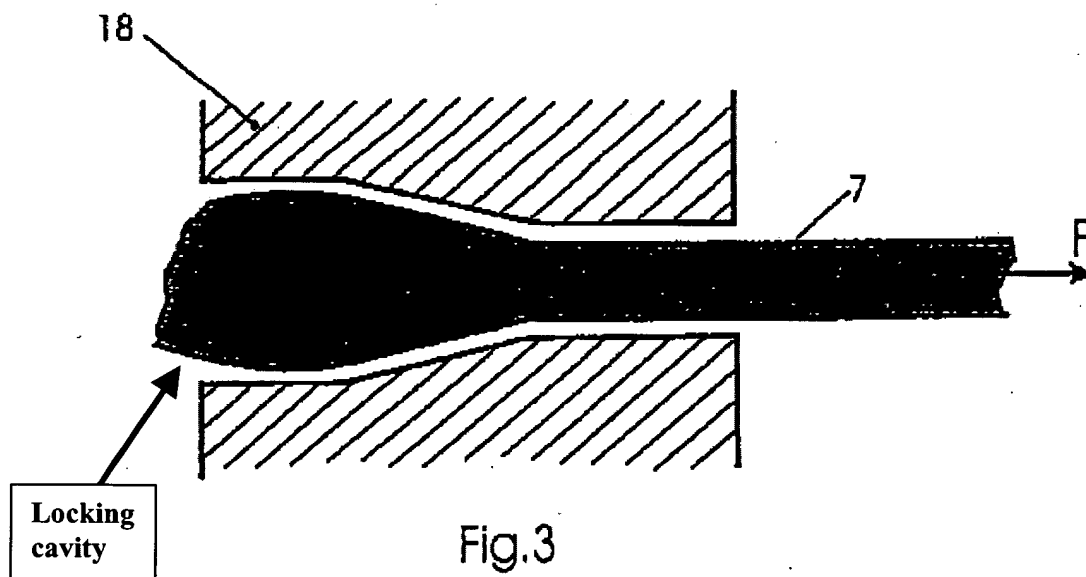
With regard to claim 28, Glejbol discloses said end-fitting comprises an axially extending through opening, said armouring wire or wires being supported by the outer surface of said support unit, wherein the outer surface means the surface turning away from the axially extending through opening (Figure 2 above).



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With regard to claim 29, Glejbol discloses the armouring wire or wires being anchored by being embedded in a casting material 14, preferably in the form of a polymer such as an epoxy or a cementitious material.

With regard to claim 30, Glejbol discloses the end-fitting comprising one or more locking cavities, said armouring wire or wires being anchored in said locking cavity or cavities (Figure 3 below).



With regard to claim 31, Glejbol discloses the armouring wire or wires being anchored by use of a spreader element 22 driven into the wire or wires in said locking cavity or cavities (Figure 4 below).

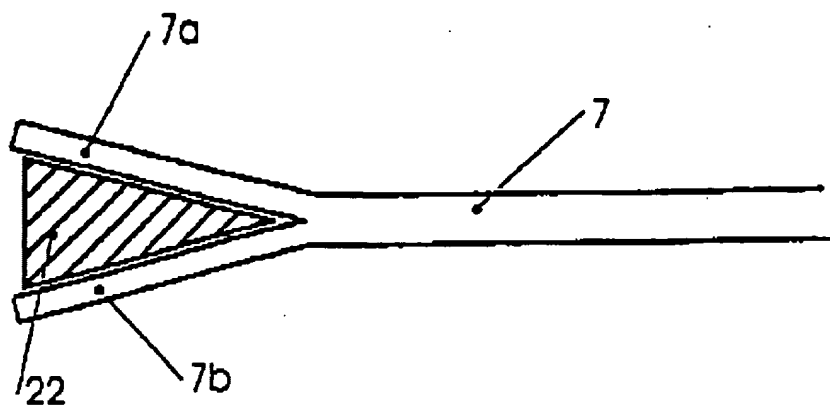


Fig. 4

With regard to claim 34, Glejbol discloses the armouring wire or wires 7 being anchored to the end-fitting by use of a spreader element 22 driven into the wire to thereby spread the wire into two or more laminates whereby the laminated wire or wires is fixed against the wall or walls of a locking cavity formed in the end-fitting (Figure 4 above).

With regard to claim 36, Glejbol discloses the pipe structure comprising a reinforcement sleeve layer 6 placed below the one or more armouring layer or layers (Figure 1 above), said reinforcement sleeve layer extends along the pipe structure in a length which include the section of the pipe structure between the wire-pipe-exit-point and the straight-line-end-point, and said reinforcement sleeve preferably extend along the pipe structure in a length which include the anchoring point or points on the end-fitting (Figure 2 above).

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 17, 20-21, 23, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glejbol.

With regard to claim 17, Glejbol discloses the claimed invention but does not disclose that the flexible pipe comprises more than one armouring layer and separate support units and terminating parts which are allocated to each layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added another armouring layer with its own separate support unit and terminating part allocated to each layer as duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

With regard to claim 20, Glejbol discloses the claimed invention but does not expressly disclose that the winding angles of the two layers of helically wound armouring wires of the flexible pipe with respect to the longitudinal direction of the flexible pipe are between 50 and 60 degrees, such as between 53 and 56 degrees, said armour layers preferably comprising helically wound wires which are wound in opposite directions.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the angles between 50 and 60 degrees because the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

With regard to claim 21, Glejbol discloses the claimed invention but does not expressly disclose that said armouring wire or wires are made of a composite material, said composite material preferably comprise one or more polymers, such as epoxy, thermoplastic and polyurethane, optionally comprising reinforcing fillers such as fibres and/or whiskers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have fabricated the armouring wire or wires from a composite material as it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With regard to claim 23, Glejbol discloses the claimed invention but does not expressly disclose that said armour layers of the wire or wires are made from one or more of the materials selected from the group consisting of metals, such as steel, thermoplastic polymers such as polyurethane and thermosetting polymers such as epoxy, said polymeric materials optionally comprise reinforcing fillers such as fibres and/or whiskers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have fabricated the armouring wire or wires from a composite material as it has

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been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With regard to claim 35, Glejbol discloses the claimed invention but does not disclose that the flexible pipe comprises two armour layers and the end fitting comprises two annular support units, the wire or wires of a first armour layer being supported by a first annular support unit, and the wire or wires of a second armour layer being supported by a second annular support unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have two armour layers with the end fitting comprising two annular support units, the wire or wires of a first armour layer being supported by a first annular support unit, and the wire or wires of a second armour layer being supported by a second annular support unit as duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

***Allowable Subject Matter***

21. Claims 8, 12, and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claim 8, the prior of record does not teach or suggest where a support unit with elements which are arranged to receive individual armouring wires in combination with the pipe structure of claim 1.

With regard to claim 12, the prior of record does not teach or suggest a support unit with an outer surface where the outer surface has a part of a torus on which the straight-line-end-point is located in combination with the pipe structure of claim 1.

With regard to claim 14, the prior of record does not teach or suggest a support unit which has both a first and a second body where the first body of the support unit has an outer surface which includes a part of a torus, and the second body has an outer surface that describes a surface of revolution, both surfaces having the same axis of revolution, the axis of revolution coinciding with the longitudinal axis of the flexible pipe, and both surfaces having coinciding tangents in a joining point in a cross sectional plane including the axis of revolution in combination with the pipe structure of claim 1.

Claim 15 depends from claim 14 and therefore, will be found to be allowable should claim 14 be found allowable as it depends from claim 14.

22. Claims 9-10 and 32-33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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With regard to claim 9, the prior art of record does not teach or suggest that the supporting surface of a support unit has individual areas formed for different wires where the straight-line-end-point is located in combination with the pipe structure of claim 1.

Claim 10 depends from claim 9 and therefore, will be found to be allowable should claim 9 be found allowable as it depends from claim 9.

With regard to claim 32, the prior art of record does not teach or suggest where a locking cavity has a length dimension defined as the length dimension of a wire mounted in the locking cavity, and the cross sectional area perpendicular to the length of the locking cavity differs along its length in one or more steps or continuously, where a first cross sectional area perpendicular to the length of the locking cavity is smaller than a second cross sectional area perpendicular to the length of the locking cavity and where the first cross section is closer to the support unit than the second cross section in combination with the pipe structure of claim 1.

Claim 33 depends from claim 32 and therefore, will be found to be allowable should claim 32 be found allowable as it depends from claim 32.

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*Conclusion*

23. Davis, Gilson, Williams, Smith, Chevalier et al '658, Chevalier et al '587, and Braad are being cited to show examples of pipe structures with a flexible pipe and an end fitting.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fannie C. Kee whose telephone number is (571) 272-1820. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Fannie C. Kee  
February 1, 2007



AARON DUNWOODY  
PRIMARY EXAMINER  
TECHNOLOGY CENTER 3600